Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Title V draft/proposed permit No. V-98-038
PROGRESS RAIL SERVICES CORPORATION
COVINGTON, KY
June 2, 2000
JILL BERTELSON, REVIEWER
Plant I.D. 079-2020-0154
Application Log # E860

SOURCE DESCRIPTION:
The existing shop houses a railcar repainting process consisting of a grit blast booth, spray painting booth with direct heating for the winter months, drying room with indirect heaters, and a stencil room with painting and indirect heaters. Railcars are blasted with steel grit or coal slag to remove the existing paint in the blast booth. Airless spray guns with low-VOC coatings are used in the spray paint booth. A bucket parts washer is used to periodically clean the spray guns. All of the heaters use propane as fuel.

The new shop consists of one room housing railcar repair operations consisting of welding, air arc gouging, oxygen cutting, grinding, caulking, fiberglass work, and painting. There are also parts washers, propane-fired space heaters, and propane, diesel and gasoline fuel tanks associated with the New Shop.

All waste is picked up by a private waste services company and all waste solvent is picked up by the parts washers and solvent manufacturer.

COMMENTS:

The source is major for VOC in a moderate nonattainment area for ozone and therefore required to apply Reasonably Available Control Technology (RACT). All painting of the railcars is covered under 401 KAR 59:225, New miscellaneous metal parts and products surface coating operations, which is a promulgation of the CTG for Miscellaneous Metal Parts and Products. The remaining VOC emissions total to less than 100 tons per year, therefore a non-CTG RACT determination is not required.

Controls:
- Enclosed room with 100% particulate capture routed to a pulse-jet baghouse containing paper cartridges for particulate in the grit blast booth. Manufacturer tested at 99.6% control efficiency with different filters. Source will performance test to determine operating control efficiency and pressure drop. The baghouse will have an audible alarm added to warn when the pressure drop is outside the operating range.
- (2) banks of collectors using Cerex-backed glass fiber filters to collect paint overspray in the spray paint booth. Source will performance test to determine operating control efficiency and pressure drop. The baghouse will have an audible alarm added to warn when the pressure drop is outside the operating range.

- No controls for VOC from painting operations other than the use of low-VOC content paints and thinners.
- Only controls on parts washers are those listed in 401 KAR 59:185 Section 8 exemptions.

Emission Factors:
- Material balance and assumptions for grit blast booth:
  - 100% grit falls to bottom and is reused, none goes through control system, not included in emissions calculations
  - Permit Reviewer assumed existing paint on railcar is same as the worst-case paint to be applied (100% of original coat remains, all is removed) but the results of an unverified test by the permittee give higher emissions so those numbers are used (10 mg/m^3 Lead, 5 mg/m^3 Cadmium, 5 gr/ft^3 particulate, 26800 cfm)
  - 100% of removed paint goes through control system
  - 1 railcar/hr
- Material balance and assumptions for spray painting operation:
  - 40 gal/railcar, 11.5 lb solids/gal paint, 50% transfer efficiency for solids, 100% VOC emitted
  - 1 railcar/2 hours
- Material balance and assumptions for stencil room painting operation:
  - 1 quart (1/4 gal)/railcar, 50% transfer efficiency for solids, 100% VOC emitted
  - 1 railcar/hour
- Material balance and assumptions for other painting operations:
  - 50% transfer efficiency for solids for aerosol spray painting, 100% VOC emitted
  - 100% transfer efficiency for solids for brush/roller painting and silicone sealant
  - 1 railcar/hour
- AP-42 1.5 LPG Combustion, Table 1.5-2 for Commercial Propane Boiler for propane heaters
- Material balance and AP-42 4.6 Solvent Degreasing for Bucket Parts Washer
  - 5 gal/batch
  - 100% VOC emitted
  - 70% control for VOC (based on Table 4.6-3 for cold cleaner)
- AP-42 12.19 Electric Arc Welding, Table 12.19-1 for welding electrodes
- Material balance and assumptions for grinding:
  - no emissions from part being ground
  - 75% of grinding wheel is consumed
  - 50% of emissions become airborne
- Tanks 3.0 program for fuel tanks

Applicable regulations:
401 KAR 59:010 with an opacity and mass emission limit for all emission points in the permit and some insignificant activities.
401 KAR 59:225 for the painting operations.

Insignificant Activities:
The indirect heaters in Drying Room and Stencil Room have their own stacks separate from all emissions from drying and painting.
Emissions from all process operations in the New Shop exit through the same set of stacks as the painting operation.

EMISSION AND OPERATING CAPS DESCRIPTION:
There is a synthetic minor limit of 90 TPY on VOC emissions from the first construction project, which consists of the Spray Paint Booth painting and direct heater, Drying Room indirect heat exchangers, Stencil Room painting and indirect heat exchangers, and regulated parts washer. The permit limit covering both painting operations is adjusted for the maximum VOC emissions from the heaters and parts washer. This precludes applicability of 401 KAR 51:052.

There is a synthetic minor limit of 90 TPY on VOC emissions from the second construction project, which consists of the New Shop painting and insignificant activities. The permit limit covering the painting operation is adjusted for the maximum VOC emissions from the insignificant activities. This precludes applicability of 401 KAR 51:052.

OPERATIONAL FLEXIBILITY:
Spray Paint Booth, Stencil Room painting, New Shop painting: can use any paint system with <3.5 lb VOC/gal. The VOC content of a paint system is as-applied including thinners and solvents added. The permittee can use any clean-up solvent as long as the synthetic minor limits are not violated.

CREDIBLE EVIDENCE:
This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.